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HOBART BROTHERS WESTBROOK PLANT LIQUID DISCHARGE REPORT

FOH0338

This report will cover a history of Hobart Brothers' efforts in the control of liquid waste discharge from the Westbrook plant, dating back as early as April 1965, an analysis of Hobart Brothers' efforts over the past five years to correct and minimize the amount of liquid discharge from the Westbrook plant, an up-to-date analysis including types of discharge, amounts of discharge, and the frequency at which the discharge is dumped, and a summary of measures to be taken in the near future to correct the entire problem in the Westbrook plant and to bring it within the quality standards established by the Ohio Water Pollution Control Board.

As early as April of 1965, initial planning was instigated by the Hobart Brothers Company to analyze and correct the ever-increasing amounts of liquid discharge from the Westbrook plant. The initial study indicated that in order to economically control the amount of liquid wastes generated in the Westbrook plant, it would first be necessary to modify our manufacturing procedures to minimize the amount of waste material generated. It was determined through the initial study that the Hobart Brothers Company could continue to grow in the manufacture of consumable welding products and at the same time, cut the amount of waste materials generated, through the use of new processes. At a great deal of expense, the Hobart Brothers Company embarked on a development program to integrate the new manufacturing procedures into the manufacturing facility.

The first step of integrating the initial plans for reducing the amount of liquid discharge was to design and develop an effective dry descaling method which could be economically used in the manufacture of Hobart Brothers consumable products. The initial study indicated that if Hobart Brothers Company could obtain a satisfactory dry descaled product, it could eliminate as much as 90% of our total acid-bearing pollutants discharged from our Westbrook plant. After long months of development work, the Hobart Brothers Company finally arrived at a satisfactory dry descaling means compatible with the Hobart consumable products. However, in some of the more critical product areas, it was found that acid treatment was still desired. By integrating the dry descaling method with a cold HCL bath, it was found that we could obtain a satisfactory product compatible with our existing manufacturing facility. At an expense of approximately $225,000 Hobart Brothers Company successfully integrated the use of dry descaling and cold HCL acid treatment. This breakthrough in process development, along with the use of dry descaling direct to wire drawing in less critical areas, has accomplished the goal originally established in the initial study done in 1965.

At the present time, the Hobart Brothers Company is discharging into the hydraulic to the east of the Westbrook plant and into the Morgan Ditch to the south of the Westbrook plant, approximately 3000 gallons a day of liquid pollutant materials which will not meet the Ohio Water Pollution

Control Board standards. These materials are as follows:

17,600 gallons per month sulfuric acid at 4% by volume acid, 7% iron
15,200 gallons per month hydrochloric acid, 16% by volume, .15 lbs. per gal.
6,000 gallons per month wire drawing lubricants, approximately 15% fat
28,600 gallons per month copper sulfate plating solution, 2.5% acid by volume, .11 pounds per gallon iron and .32 oz. per gal. Cuprodine
Approximately 5000 gallons per month wash water containing small amounts of sodium silicate, feldspar, ferromanganese, ferrosilicon, iron powder, and alpha cellulose.

The remainder of our liquid discharge consists of rinse water and cooling water ranging from a pH of 5.5 to 7. Based on a test conducted on August 25, 1970, our cooling water and rinse water discharge will meet the minimum standards established by the Ohio Water Pollution Control Board. It is estimated that the cooling water and rinse water discharge amounts to approximately 600,000 gallons per day.

At this time, the Hobart Brothers Company has planned the installation of a closed loop cooling tower for use in the Westbrook facility. The proposed cooling tower will handle all of the wire drawing machines, heat treating furnaces, lubricant tanks, and air compressors located in Departments 552 and 556. Through the installation of the closed loop cooling system, the Hobart Brothers Company will be able to cut the amount of liquid discharge into the old hydraulic approximately in half. The installation of the cooling tower will eliminate the need for additional amounts of water to be pumped from the ground, as well as minimizing the amount of liquid discharged into the old hydraulic. At this time, the Hobart Brothers Company has planned to isolate the pollutants and discharge them into a concrete holding tank. This tank will have a capacity of approximately 24,000 gallons. The holding tank will be divided into two compartments which can be utilized for the preliminary treatment of the liquid discharge. With the installation of the large holding tank, it will be possible to meter at a constant flow rate of approximately 3 gallons per minute to the sanitary sewer system. However, if this is not possible, the holding tank can easily be converted into a treatment facility which will allow discharge into the old hydraulic, meeting the minimum standards established by the Ohio Water Pollution Control Board. Based on the analysis of our rinse waters, it is the present plan to allow them to be discharged directly into the old hydraulic without treatment.

At this point, I would estimate that the Hobart Brothers Company is approximately 80% complete in their plans to eliminate all liquid discharge from their Westbrook plant which does not meet the Ohio Water Pollution Control Board's minimum standards.

Don Karnes - Director of Facilities Engineering
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